Dell Inspiron 17R

Owner's Manual

Computer model: Inspiron 17R-5720/17R-7720
Regulatory model: P15E
Regulatory type: P15E001

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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1 Before You Begin

Turn Off Your Computer and Connected Devices

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Save and close all open files and exit all open programs.
2. Click **Start** and click **Shut down**.

   Microsoft Windows shuts down and then the computer turns off.

   NOTE: If you are using a different operating system, see the documentation of your operating system for shut-down instructions.
3. Disconnect your computer and all attached devices from their electrical outlets.
4. Disconnect all telephone cables, network cables, and attached devices from your computer.
5. Press and hold the power button for about 5 seconds, after the computer is unplugged, to ground the system board.

Safety Instructions

Use the following safety guidelines to protect your computer from potential damage and ensure your personal safety.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

WARNING: Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the power source.

CAUTION: To avoid damaging the computer, ensure that the work surface is flat and clean.

CAUTION: To avoid damaging the components and cards, handle them by their edges and avoid touching pins and contacts.

CAUTION: Only a certified service technician is authorized to remove the computer cover and access any of the components inside the computer. See the safety instructions for complete information about safety precautions, working inside your computer, and protecting against electrostatic discharge.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs or thumb-screws that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending any connector pins. When connecting cables, ensure that the connectors and ports are correctly oriented and aligned.

CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

CAUTION: Press and eject any installed card from the 8-in-1 Media Card Reader.

Recommended Tools

The procedures in this document may require the following tools:

- Phillips screwdriver
- Plastic scribe
- Small flat-blade screwdriver

2 After Working Inside Your Computer

After you complete replacement procedures, ensure the following:

- Replace all screws and ensure that no stray screws remain inside your computer
- Connect any external devices, cables, cards, and any other part(s) you removed before working on your computer
- Connect your computer and all attached devices to their electrical outlets

CAUTION: Before turning on your computer, replace all screws and ensure that no stray screws remain inside the computer. Failure to do so may damage your computer.

3 Switch

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Switch

1. Slide the switch release latch to the side.
   The switch pops up.
2. Lift the switch off the computer.

1	display cover	2	switch
3	switch release latch		

Replacing the Switch

1 Align the tabs at the bottom of the switch with the slots on the display cover and snap the switch into place.

NOTE: Ensure that the tabs on the switch are secured in the slots on the display cover.

1	tabs	2	slots

2 Follow the instructions in "After Working Inside Your Computer" on page 9.

4 Battery

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Removing the Battery

1. Close the display and turn the computer over.
2. Slide the battery release latches to the unlock position.
3. Lift the battery out of the battery bay.

1 battery release latches (2)	2 battery

Replacing the Battery

1. Align the tabs on the battery with the slots on the battery bay and snap the battery until it clicks into place.
2. Follow the instructions in "After Working Inside Your Computer" on page 9.

5 Keyboard

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Keyboard

Prerequisites

Remove the battery. See "Removing the Battery" on page 13.

Procedure

CAUTION: The keycaps on the keyboard are fragile, easily dislodged, and time-consuming to replace. Be careful when removing and handling the keyboard.

1. Turn the computer over and open the display as far as possible.
2. Using a plastic scribe, release the keyboard from the tabs on the palm rest and ease the keyboard up until it clears off the palm rest.

CAUTION: Be extremely careful when removing and handling the keyboard. Failure to do so could result in scratching the display panel.

1	tabs (4)	2	plastic scribe
3	keyboard	4	palm rest

3 Carefully turn the keyboard over and place it on the palm rest.

4 Lift the connector latch and pull the pull-tab to disconnect the keyboard cable from the system-board connector.

5 Lift the keyboard away from the computer.

1	keyboard cable	2	connector latch
3	tabs (6)		

Replacing the Keyboard

Procedure

1. Slide the keyboard cable into the system-board connector and press down on the connector latch to secure the cable.
2. Slide the tabs at the bottom of the keyboard into the slots on the palm rest and place the keyboard on the palm rest.
3. Gently press around the edges of the keyboard to secure the keyboard under the tabs on the palm rest.
4. Close the display and turn the computer over.

Postrequisites

1. Replace the battery. See "Replacing the Battery" on page 13.
2. Follow the instructions in "After Working Inside Your Computer" on page 9.

6 Base Cover

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Base Cover

Prerequisites

Remove the battery. See "Removing the Battery" on page 13.

Procedure

1. Loosen the captive screws that secure the base cover to the computer base.
2. Using your fingertips, pry the base cover from the computer base.
3. Lift the base cover off the computer base.

1	captive screws (2)	2	base cover

Replacing the Base Cover

Procedure

1. Slide the tabs on the base cover into the slots on the computer base and snap the base cover into place.
2. Tighten the captive screws that secure the base cover to the computer base.

Postrequisites

1. Replace the battery. See "Replacing the Battery" on page 13.
2. Follow the instructions in "After Working Inside Your Computer" on page 9.

7 Memory Module(s)

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Memory Module(s)

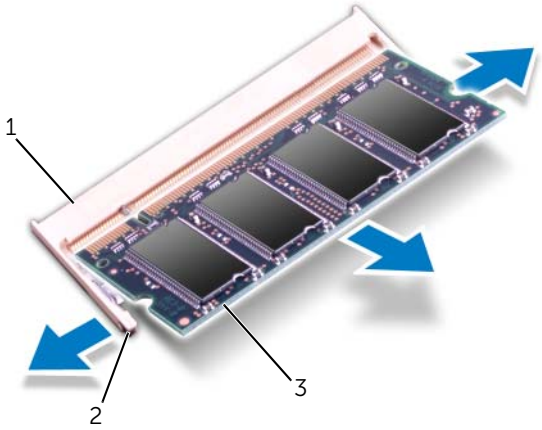
Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the base cover. See "Removing the Base Cover" on page 19.

Procedure

CAUTION: To prevent damage to the memory-module connector, do not use tools to spread the memory-module securing clips.

1. Use your fingertips to carefully spread apart the securing clips on each end of the memory-module connector until the memory module pops up.
2. Remove the memory module from the memory-module connector.



1	memory-module connector	2	securing clips (2)
3	memory module		

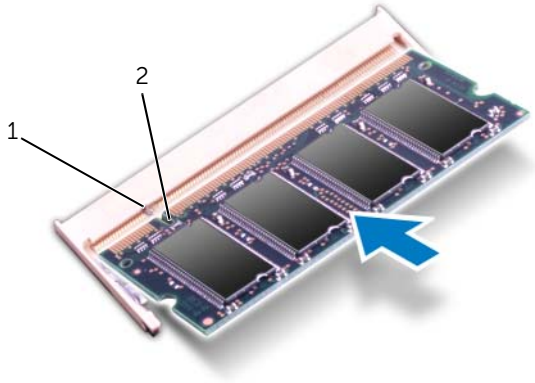
Replacing the Memory Module(s)

Procedure

CAUTION: If you need to install memory modules in two connectors, install a memory module in the connector labeled "DIMM A" before you install a memory module in the connector labeled "DIMM B."

1. Align the notch on the memory module with the tab on the memory-module connector.
2. Slide the memory module firmly into the connector at a 45-degree angle, and press the memory module down until it clicks into place. If you do not hear the click, remove the memory module and reinstall it.

NOTE: If the memory module is not installed properly, the computer may not boot.



1	tab	2	notch

Postrequisites

1. Replace the base cover. See "Replacing the Base Cover" on page 20.
2. Replace the battery. See "Replacing the Battery" on page 13.
3. Follow the instructions in "After Working Inside Your Computer" on page 9.
4. Turn on your computer.

As the computer boots, it detects the memory module(s) and automatically updates the system configuration information.

To confirm the amount of memory installed on your computer:

Click **Start** → **Control Panel** → **System and Security** → **System**.

8 Hard Drive(s)

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

CAUTION: To avoid data loss, do not remove the hard drive while the computer is On or in Sleep state.

CAUTION: Hard drives are extremely fragile. Exercise care when handling the hard drive.

Removing the Hard Drive(s)

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the base cover. See "Removing the Base Cover" on page 19.

Procedure

1. Remove the screws that secure the hard-drive assembly to the computer base.
2. Slide the hard-drive assembly toward the side of the computer to disconnect it from the system-board connector.
3. Lift the hard-drive assembly off the computer base.

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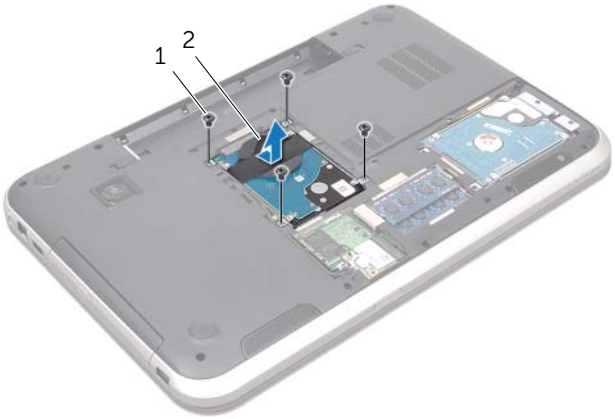

1	screws (4)	2	hard-drive assembly

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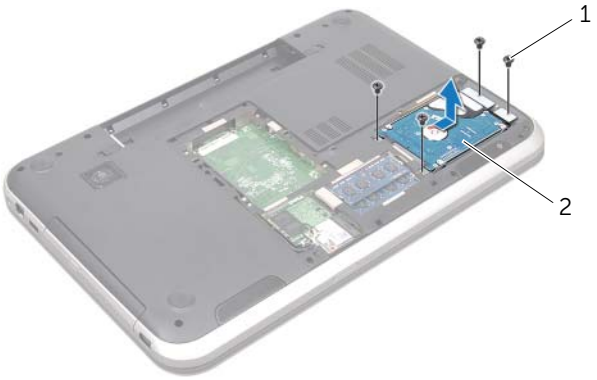

1	screws (4)	2	hard-drive assembly

4 Remove the screws that secure the hard-drive bracket to the hard drive.

5 Lift the hard-drive bracket off the hard drive.

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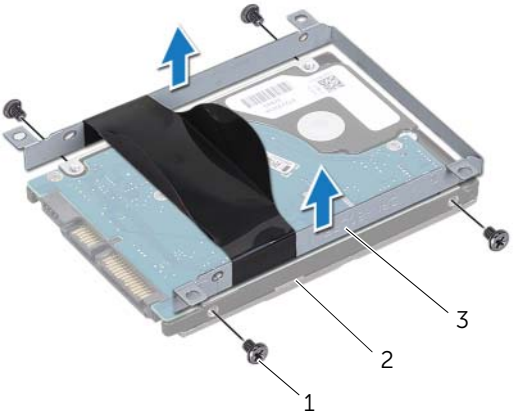
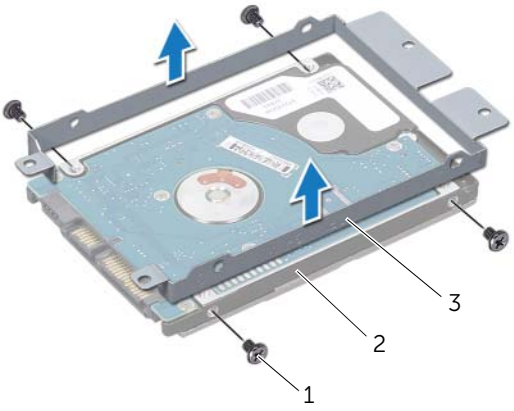


1	screws (4)	2	hard drive
3	hard-drive bracket		

Inspiron 17R-5720/Inspiron 17R-7720



1	screws (4)	2	hard drive
3	hard-drive bracket		

Replacing the Hard Drive(s)

Procedure

1. Remove the new hard drive from its packaging.
   Save the original packaging for storing or shipping the hard drive.
2. Align the screw holes on the hard drive-bracket with the screw holes on the hard drive.
3. Replace the screws that secure the hard-drive bracket to the hard drive.
4. Place the hard-drive assembly on the computer base.
5. Slide the hard-drive assembly to connect it to the system-board connector.
6. Replace the screws that secure the hard-drive assembly to the computer base.

Postrequisites

1. Replace the base cover. See "Replacing the Base Cover" on page 20.
2. Replace the battery. See "Replacing the Battery" on page 13.
3. Follow the instructions in "After Working Inside Your Computer" on page 9.

9 Optical Drive

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

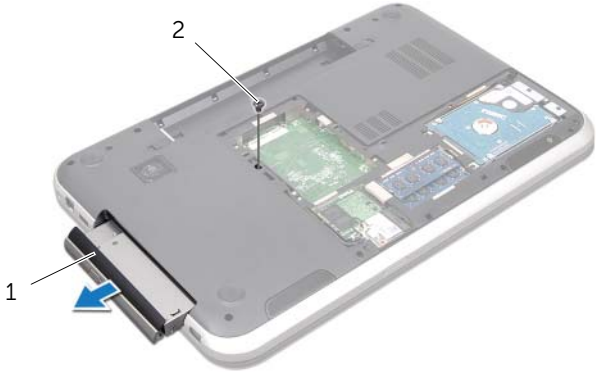
Removing the Optical Drive

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the base cover. See "Removing the Base Cover" on page 19.

Procedure

1. Remove the screw that secures the optical-drive assembly to the computer base.
2. Using your fingertips, slide the optical-drive assembly out of the optical-drive bay.

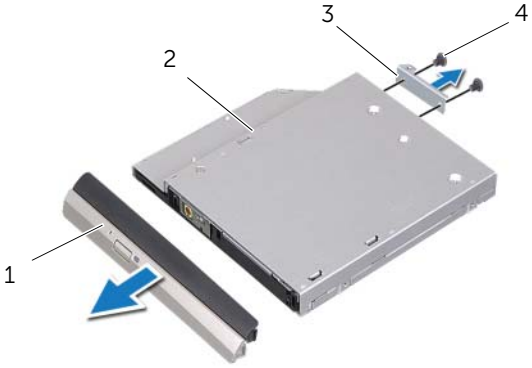


1	optical-drive assembly	2	screw

3 Carefully pry the optical-drive bezel and remove it from the optical-drive assembly.

4 Remove the screws that secure the optical-drive bracket to the optical drive.

5 Remove the optical-drive bracket.



1	optical-drive bezel	2	optical drive
3	optical-drive bracket	4	screws (2)

Replacing the Optical Drive

Procedure

1. Align the screw holes on the optical-drive bracket with the screw holes on the optical drive.
2. Replace the screws that secure the optical-drive bracket to the optical drive.
3. Align the tabs on the optical-drive bezel with the slots on the optical-drive assembly and snap the optical-drive bezel into place.
4. Slide the optical-drive assembly into the optical-drive bay until it is fully seated.
5. Replace the screw that secures the optical-drive assembly to the computer base.

Postrequisites

1. Replace the base cover. See "Replacing the Base Cover" on page 20.
2. Replace the battery. See "Replacing the Battery" on page 13.
3. Follow the instructions in "After Working Inside Your Computer" on page 9.

10 Wireless Mini-Card

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

NOTE: Dell does not guarantee compatibility or provide support for wireless Mini-Cards from sources other than Dell.

If you ordered a wireless Mini-Card with your computer, the card is already installed.

Your computer has one half Mini-Card slot which supports a Wireless Local Area Network (WLAN) + Bluetooth combo card, Wi-Fi, and Worldwide Interoperability for Microwave Access (WiMax).

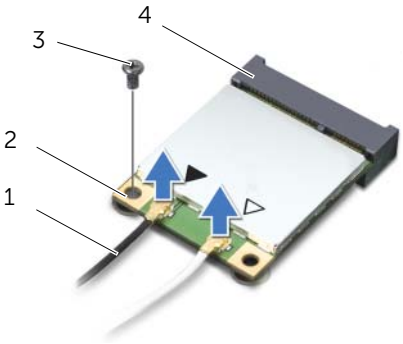
Removing the Wireless Mini-Card

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the base cover. See "Removing the Base Cover" on page 19.

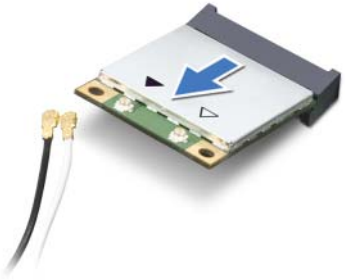
Procedure

1. Disconnect the antenna cables from the connectors on the Mini-Card.
2. Remove the screw that secures the Mini-Card to the system-board connector.



1	antenna cables (2)	2	Mini-Card
3	screw	4	system-board connector

3. Lift the Mini-Card out of the system-board connector.



CAUTION: When the Mini-Card is not in the computer, store it in protective antistatic packaging. For more information, see "Protecting Against Electrostatic Discharge" in the safety information that shipped with your computer.

Replacing the Wireless Mini-Card

Procedure

1. Remove the new Mini-Card from its packaging.
2. Align the notch on the Mini-Card with the tab on the system-board connector.

CAUTION: Use firm and even pressure to slide the Mini-Card into place. If you use excessive force, you may damage the connector.

CAUTION: The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors on the Mini-Card and on the system board, and realign the Mini-Card.

CAUTION: To avoid damage to the Mini-Card, never place cables under the Mini-Card.

3. Insert the Mini-Card connector at a 45-degree angle into the system-board connector.
4. Press the other end of the Mini-Card down into the slot on the system board and replace the screw that secures the Mini-Card to the system-board connector.
5. Connect the antenna cables to the connectors on the Mini-Card.

   The following table provides the antenna cable color scheme for the Mini-Cards supported by your computer.

Connectors on the Mini-Card	Antenna Cable Color Scheme
WLAN + Bluetooth (2 cables)	
Main WLAN + Bluetooth (white triangle)	white
Auxiliary WLAN + Bluetooth (black triangle)	black
WWAN (2 antenna cables)	
Main WWAN (white triangle)	white
Auxiliary WWAN (black triangle)	black

Postrequisites

1. Replace the base cover. See "Replacing the Base Cover" on page 20.
2. Replace the battery. See "Replacing the Battery" on page 13.
3. Follow the instructions in "After Working Inside Your Computer" on page 9.

11 mSATA Card (Optional)

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

NOTE: Dell does not guarantee compatibility or provide support for mSATA cards from sources other than Dell.

If you ordered a mSATA card with your computer, the card is already installed.

Removing the mSATA Card

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the base cover. See "Removing the Base Cover" on page 19.

Procedure

1. Remove the screw that secures the mSATA card to the system-board connector.
2. Lift the mSATA card out of the system-board connector.

1	mSATA card	2	screw
3	system-board connector		

CAUTION: When the mSATA card is not in the computer, store it in protective antistatic packaging. For more information, see "Protecting Against Electrostatic Discharge" in the safety information that shipped with your computer.

Replacing the mSATA Card

Procedure

1. Remove the new mSATA card from its packaging.
2. Align the notch on the mSATA card with the tab on the system-board connector.

CAUTION: Use firm and even pressure to slide the mSATA card into place. If you use excessive force, you may damage the connector.

CAUTION: To avoid damage to the mSATA card, never place cables under the mSATA card.

3. Insert the mSATA card connector at a 45-degree angle into the system-board connector.
4. Press the other end of the mSATA card down into the slot on the system board and replace the screw that secures the mSATA card to the system-board connector.

Postrequisites

1. Replace the base cover. See "Replacing the Base Cover" on page 20.
2. Replace the battery. See "Replacing the Battery" on page 13.
3. Follow the instructions in "After Working Inside Your Computer" on page 9.

12 Palm Rest

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Palm Rest

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.

Procedure

1. Remove the screws that secure the palm rest to the computer base.

2 Turn the computer over and open the display as far as possible.

3 Remove the screws that secure the palm rest to the computer base.

4 Lift the connector latches and pull the pull-tabs to disconnect the hot-key board cable, power-button board cable, and touch-pad cable from the connectors on the system board.

CAUTION: Carefully separate the palm rest from the display assembly to avoid damage to the display assembly.

5 Using your fingertips, push the palm rest up from the slot in the optical-drive bay.

6 Carefully pry out the palm rest and then ease the palm rest from the computer base.

1	hot-key board cable	2	pull-tab
3	connector latch	4	screws (4)
5	palm rest	6	touch-pad cable
7	power-button board cable		

Replacing the Palm Rest

Procedure

1. Align the palm rest with the computer base and gently snap the palm rest into place.
2. Slide the hot-key board cable, power-button board cable, and touch-pad cable into the connectors on the system board and press down on the connector latches to secure the cables.
3. Replace the screws that secure the palm rest to the computer base.
4. Close the display and turn the computer over.
5. Replace the screws that secure the palm rest to the computer base.

Postrequisites

1. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
2. Replace the base cover. See "Replacing the Base Cover" on page 20.
3. Replace the keyboard. See "Replacing the Keyboard" on page 18.
4. Replace the battery. See "Replacing the Battery" on page 13.
5. Follow the instructions in "After Working Inside Your Computer" on page 9.

13 Coin-Cell Battery

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

WARNING: The battery may explode if installed incorrectly. Replace the battery only with the same or equivalent type. Discard used batteries according to the manufacturer's instructions.

Removing the Coin-Cell Battery

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.

Procedure

CAUTION: Removing the coin-cell battery resets the BIOS settings to default.
It is recommended that you note the BIOS settings before removing the coin-cell battery.

Using a plastic scribe, gently pry out the coin-cell battery out of the battery socket on the system board.

1	plastic scribe	2	coin-cell battery
3	battery socket		

Replacing the Coin-Cell Battery

Procedure

With the positive-side facing up, snap the coin-cell battery into the battery socket on the system board.

Postrequisites

1. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
2. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
3. Replace the base cover. See "Replacing the Base Cover" on page 20.
4. Replace the keyboard. See "Replacing the Keyboard" on page 18.
5. Replace the battery. See "Replacing the Battery" on page 13.
6. Follow the instructions in "After Working Inside Your Computer" on page 9.

14 Fan

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

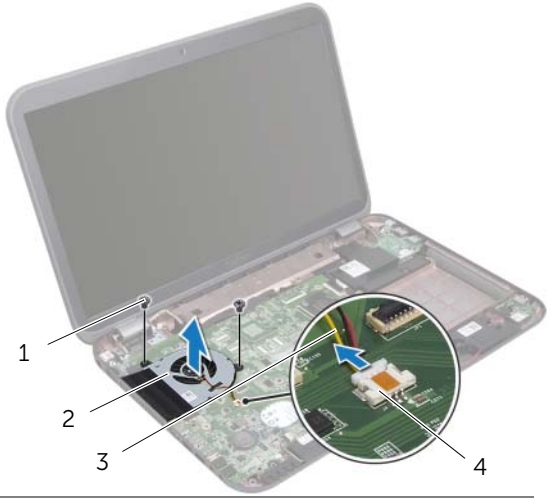
Removing the Fan

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the base cover. See "Removing the Base Cover" on page 19.
3. Remove the keyboard. See "Removing the Keyboard" on page 15.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.

Procedure

1. Disconnect the fan cable from the system-board connector.
2. Remove the screws that secure the fan to the computer base.
3. Lift the fan along with its cable away from the computer base.



1	screws (2)	2	fan
3	fan cable	4	system-board connector

Replacing the Fan

Procedure

1. Align the screw holes on the fan with the screw holes on the computer base.
2. Replace the screws that secure the fan to computer base.
3. Connect the fan cable to the system-board connector.

Postrequisites

1. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
2. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
3. Replace the base cover. See "Replacing the Base Cover" on page 20.
4. Replace the keyboard. See "Replacing the Keyboard" on page 18.
5. Replace the battery. See "Replacing the Battery" on page 13.
6. Follow the instructions in "After Working Inside Your Computer" on page 9.

15 LAN Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

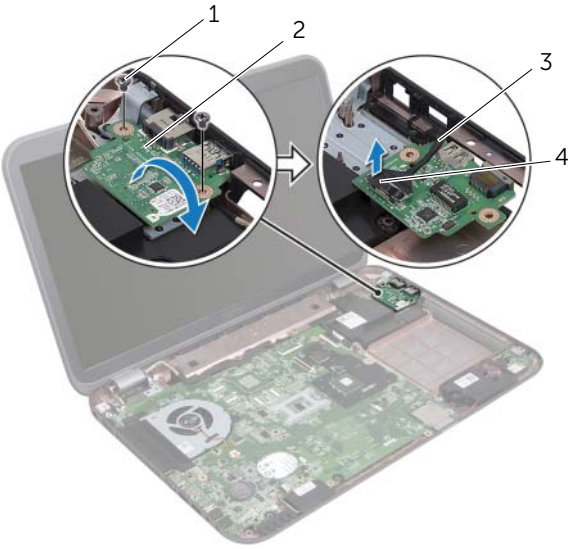
Removing the LAN Board

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.

Procedure

1. Remove the screws that secure the LAN board to the computer base.
2. Carefully turn the LAN board over.
3. Pull the pull-tab to disconnect the LAN-board cable from the LAN-board connector.
4. Remove the LAN board away from the computer base.



1	screws (2)	2	LAN board
3	LAN-board cable	4	pull-tab

Replacing the LAN Board

Procedure

1. Connect the LAN-board cable to the LAN-board connector.
2. Carefully turn the LAN board over and align the screw holes on the LAN board with the screw holes on the computer base.
3. Replace the screws that secure the LAN board to the computer base.

Postrequisites

1. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
2. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
3. Replace the base cover. See "Replacing the Base Cover" on page 20.
4. Replace the keyboard. See "Replacing the Keyboard" on page 18.
5. Replace the battery. See "Replacing the Battery" on page 13.
6. Follow the instructions in "After Working Inside Your Computer" on page 9.

16 LAN-USB Cable

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

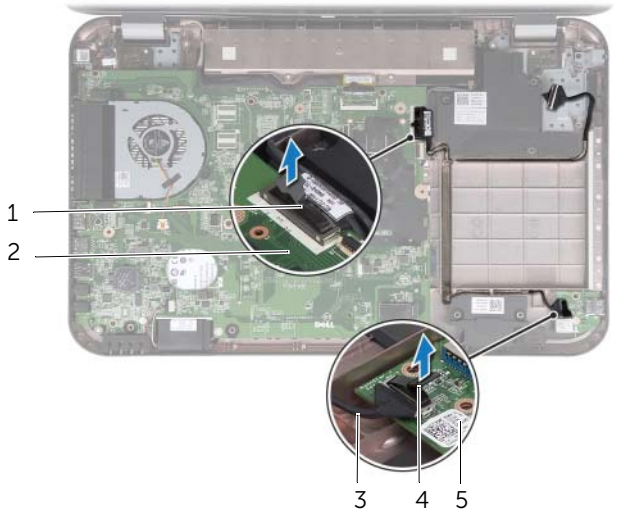
Removing the LAN-USB Cable

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.
6. Remove the LAN board. See "Removing the LAN Board" on page 49.

Procedure

1. Pull the pull-tab to disconnect the USB-board cable from the USB-board connector.
2. Pull the pull-tab to disconnect the LAN-USB cable from the system-board connector.
3. Make a note of the LAN-USB cable routing and remove the cable from the routing guides on the computer base.
4. Peel off the LAN-USB cable from the computer base.



1	LAN-USB cable	2	system board
3	USB-board cable	4	pull-tab
5	USB board		

Replacing the LAN-USB Cable

Procedure

1. Adhere the LAN-USB cable to the computer base.
2. Route the LAN-USB cable through the routing guides on the computer base.
3. Connect the LAN-USB cable to the system-board connector.
4. Connect the USB-board cable to the USB-board connector.

Postrequisites

1. Replace the LAN board. See "Replacing the LAN Board" on page 51.
2. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
3. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
4. Replace the base cover. See "Replacing the Base Cover" on page 20.
5. Replace the keyboard. See "Replacing the Keyboard" on page 18.
6. Replace the battery. See "Replacing the Battery" on page 13.
7. Follow the instructions in "After Working Inside Your Computer" on page 9.

17 USB Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

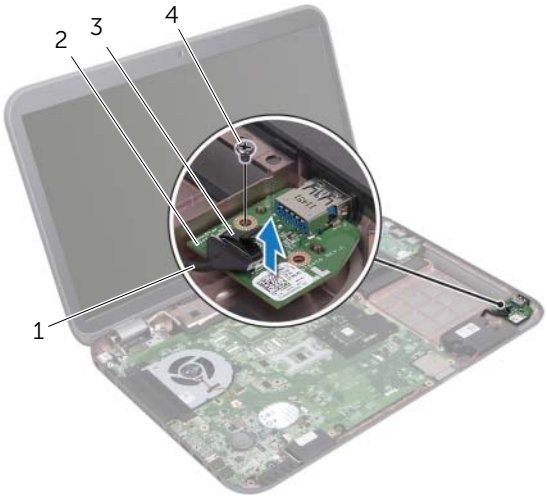
Removing the USB Board

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.

Procedure

1. Pull the pull-tab to disconnect the USB-board cable from the USB-board connector.
2. Remove the screw that secures the USB board to the computer base.
3. Lift the USB board away from the computer base.



1	USB-board cable	2	USB board
3	pull-tab	4	screw

Replacing the USB Board

Procedure

1. Align the screw hole on the USB board with the screw hole on the computer base.
2. Replace the screw that secures the USB board to the computer base.
3. Connect the USB-board cable to the USB-board connector.

Postrequisites

1. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
2. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
3. Replace the base cover. See "Replacing the Base Cover" on page 20.
4. Replace the keyboard. See "Replacing the Keyboard" on page 18.
5. Replace the battery. See "Replacing the Battery" on page 13.
6. Follow the instructions in "After Working Inside Your Computer" on page 9.

18 Display

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Display Assembly

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.

Procedure

1. Close the display and turn the computer over.
2. Disconnect the antenna cables from the connectors on the Mini-Card.
   See "Removing the Wireless Mini-Card" on page 31.
3. Make a note of the antenna cables routing and remove the cables from the routing guides.
4. Turn the computer over and open the display as far as possible.
5. Pull the antenna cables up through the slot on the computer base.
6. Pull the pull-tab to disconnect the display cable from the system-board connector.
7. Make a note of the display cable routing and remove the cable from the routing guides.
8. Remove the screws that secure the display assembly to the computer base.
9. Lift the display assembly off the computer base.

1	display assembly	2	screws (4)
3	display cable	4	pull-tab
5	antenna cables (2)		

Replacing the Display Assembly

Procedure

1. Place the display assembly in position and replace the screws that secure the display assembly to the computer base.
2. Route the display cable through the routing guides and connect the display cable to the system-board connector.
3. Route the antenna cables through the routing guides and slide the cables through the slot on the computer base.
4. Close the display and turn the computer over.
5. Route the antenna cables through the routing guides at the bottom of the computer.
6. Connect the antenna cables to the connectors on the Mini-Card. See "Replacing the Wireless Mini-Card" on page 33.

Postrequisites

1. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
2. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
3. Replace the base cover. See "Replacing the Base Cover" on page 20.
4. Replace the keyboard. See "Replacing the Keyboard" on page 18.
5. Replace the battery. See "Replacing the Battery" on page 13.
6. Follow the instructions in "After Working Inside Your Computer" on page 9.

Removing the Display Bezel

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.
6. Remove the display assembly. See "Removing the Display Assembly" on page 61.

Procedure

CAUTION: The display bezel is extremely fragile. Be careful when removing it to prevent damaging the display bezel.

1. Using your fingertips, carefully pry up the inside edge of the display bezel.
2. Lift the display bezel off the display assembly.

1	display bezel

Replacing the Display Bezel

Procedure

Align the display bezel over the display panel and gently snap it into place.

Postrequisites

1. Replace the display assembly. See "Replacing the Display Assembly" on page 63.
2. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
3. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
4. Replace the base cover. See "Replacing the Base Cover" on page 20.
5. Replace the keyboard. See "Replacing the Keyboard" on page 18.
6. Replace the battery. See "Replacing the Battery" on page 13.
7. Follow the instructions in "After Working Inside Your Computer" on page 9.

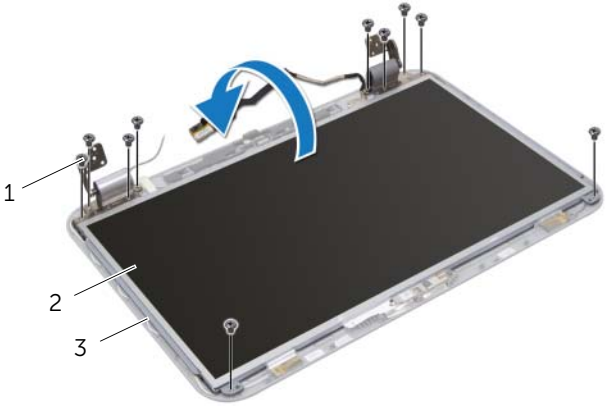
Removing the Display Panel

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.
6. Remove the display assembly. See "Removing the Display Assembly" on page 61.
7. Remove the display bezel. See "Removing the Display Bezel" on page 64.

Procedure

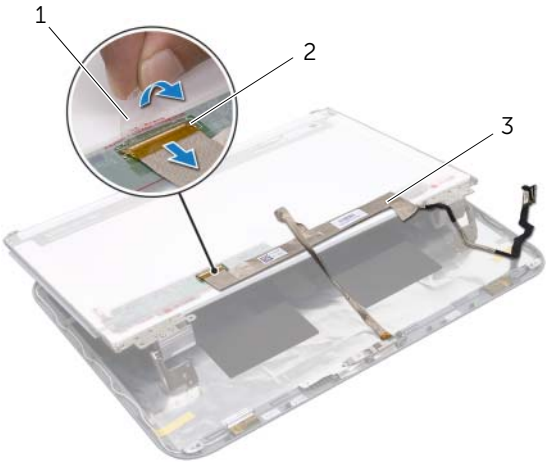
1. Remove the screws that secure the display panel to the display cover.
2. Carefully lift the display panel and turn it over.



1	screws (10)	2	display panel
3	display cover		

3 Peel and lift the tape that secures the display cable to the display-board connector and then disconnect the display cable.

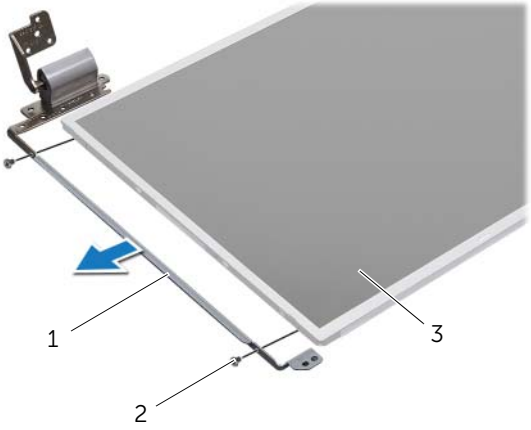
4 Peel the display cable from the back of the display panel.



1	tape	2	display-board connector
3	display cable		

5 Turn the display panel over and place it on a clean surface.

6 Remove the screws that secure the display-panel brackets to the display panel.



1	display-panel brackets (2)	2	screws (4)
3	display panel		

Replacing the Display Panel

Procedure

1. Align the screw holes on the display-panel brackets with the screw holes on the display panel and replace the screws that secure the display-panel brackets to the display panel.
2. Turn the display panel over.
3. Adhere the display cable to the back of the display panel.
4. Connect the display cable to the display-board connector and secure it with the tape.
5. Align the screw holes on the display panel with the screw holes on the display cover and replace the screws that secure the display panel to the display cover.

Postrequisites

1. Replace the display bezel. See "Replacing the Display Bezel" on page 65.
2. Replace the display assembly. See "Replacing the Display Assembly" on page 63.
3. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
4. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
5. Replace the base cover. See "Replacing the Base Cover" on page 20.
6. Replace the keyboard. See "Replacing the Keyboard" on page 18.
7. Replace the battery. See "Replacing the Battery" on page 13.
8. Follow the instructions in "After Working Inside Your Computer" on page 9.

19 Camera Module

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

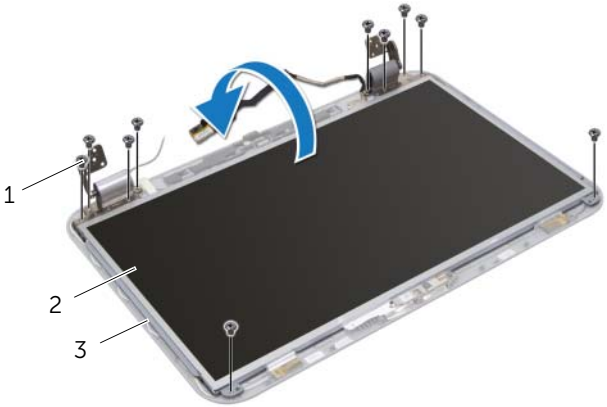
Removing the Camera Module

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
5. Remove the palm rest. See "Removing the Palm Rest" on page 39.
6. Remove the display assembly. See "Removing the Display Assembly" on page 61.
7. Remove the display bezel. See "Removing the Display Bezel" on page 64.

Procedure

1. Remove the screws that secure the display panel to the display cover.
2. Carefully lift the display panel and turn it over.



1	screws (10)	2	display panel
3	display cover		

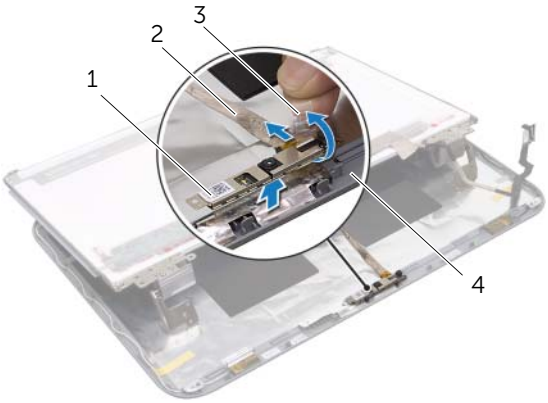
3 Pry the camera module from the display cover.

4 Turn the camera module over.

5 Peel and lift the tape that secures the camera cable to the camera module.

6 Disconnect the camera cable from the camera-module connector.

7 Lift the camera module off the display cover.



1	camera module	2	camera cable
3	tape	4	display cover

Replacing the Camera Module

Procedure

1. Connect the camera cable to the camera-module connector and secure it with the tape.
2. Use the alignment posts on the display cover to place the camera module in position and adhere the camera module to the display cover.
3. Align the screw holes on the display panel with the screw holes on the display cover.
4. Replace the screws that secure the display panel to the display cover.

Postrequisites

1. Replace the display bezel. See "Replacing the Display Bezel" on page 65.
2. Replace the display assembly. See "Replacing the Display Assembly" on page 63.
3. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
4. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
5. Replace the base cover. See "Replacing the Base Cover" on page 20.
6. Replace the keyboard. See "Replacing the Keyboard" on page 18.
7. Replace the battery. See "Replacing the Battery" on page 13.
8. Follow the instructions in "After Working Inside Your Computer" on page 9.

20 System Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the System Board

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Remove the memory module(s). See "Removing the Memory Module(s)" on page 21.
5. Follow the instructions from step 1 to step 3 in "Removing the Hard Drive(s)" on page 23.
6. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
7. Remove the mSATA card. "Removing the mSATA Card" on page 35.
8. Remove the wireless Mini-Card. See "Removing the Wireless Mini-Card" on page 31.
9. Remove the palm rest. See "Removing the Palm Rest" on page 39.
10. Remove the fan. See "Removing the Fan" on page 47.

Procedure

NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS after you replace the system board.

NOTE: Before disconnecting the cables from the system board, note the location of the connectors so that you can reconnect them correctly after you replace the system-board assembly.

1. Close the display and turn the computer over.
2. Disconnect the subwoofer cable from the system-board connector.

1	subwoofer cable routing	2	subwoofer cable

3 Turn the computer over and open the display as far as possible.

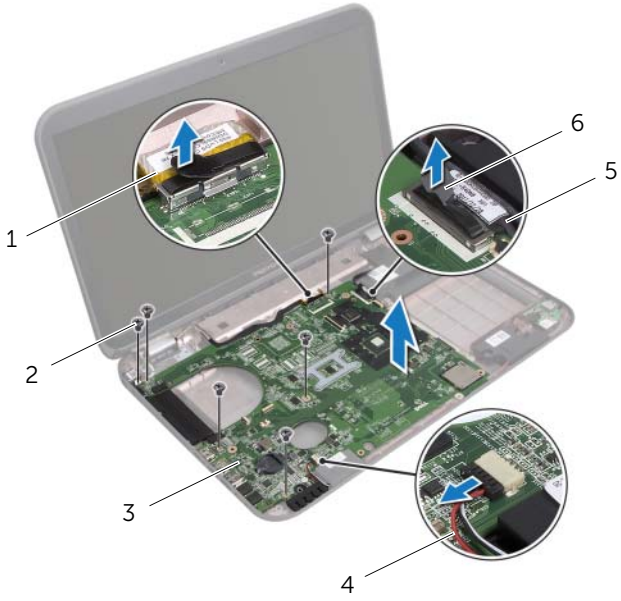
4 Pull the pull-tab to disconnect the display cable and LAN-USB cable from the connectors on the system board.

5 Disconnect the speakers cable from the system-board connector.

6 Remove the screws that secure the system-board assembly to the computer base.

7 Remove the screw that secures the power-adapter port to the computer base.

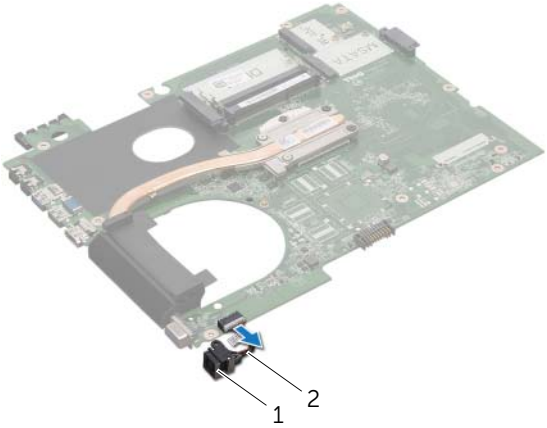
8 Carefully lift the system-board assembly at an angle and release the connectors on the system board from the slots on the computer base.



1	display cable	2	screws (6)
3	system-board assembly	4	speakers cable
5	LAN-USB cable	6	pull-tab

9 Turn the system-board assembly over along with the power-adapter port cable.

10 Disconnect the power-adapter port cable from the system-board connector.



1	power-adapter port	2	power-adapter port cable

11 Remove the heat sink. See "Removing the Heat Sink" on page 81.

12 Remove the processor. See "Removing the Processor" on page 85.

Replacing the System Board

Procedure

1. Replace the processor. See "Replacing the Processor" on page 87.
2. Replace the heat sink. See "Replacing the Heat Sink" on page 83.
3. Connect the power-adapter port cable to the system-board connector.
4. Turn the system-board assembly over.
5. Slide the connectors on the system-board assembly into the slots on the computer base.
6. Replace the screws that secure the system-board assembly to the computer base.
7. Align the screw hole on the power-adapter port with the screw hole on the computer base.
8. Replace the screw that secures the power-adapter port to the computer base.
9. Connect the display cable, speakers cable, and LAN-USB cable to the connectors on the system board.
10. Close the display and turn the computer over.
11. Connect the subwoofer cable to the system-board connector.

Postrequisites

1. Replace the fan. See "Replacing the Fan" on page 48
2. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
3. Replace the wireless Mini-Card. See "Replacing the Wireless Mini-Card" on page 33.
4. Replace the mSATA card. See "Replacing the mSATA Card" on page 37.
5. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
6. Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive(s)" on page 26.
7. Replace the memory module(s). See "Replacing the Memory Module(s)" on page 22.
8. Replace the base cover. See "Replacing the Base Cover" on page 20.
9. Replace the keyboard. See "Replacing the Keyboard" on page 18.
10. Replace the battery. See "Replacing the Battery" on page 13.
11. Follow the instructions in "After Working Inside Your Computer" on page 9.

Entering the Service Tag in the BIOS

1. Turn on the computer.
2. Press <F2> during POST to enter the system setup program.
3. Navigate to the main tab and enter the Service Tag in the Service Tag Setting field.

21 Heat Sink

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

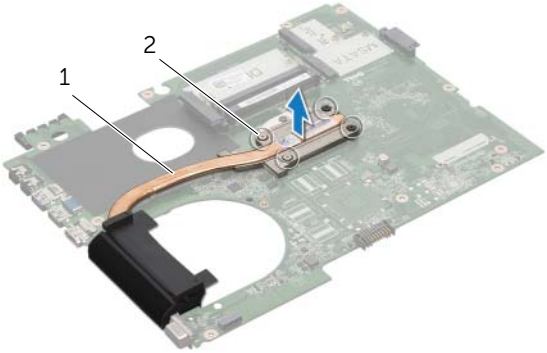
Removing the Heat Sink

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Remove the memory module(s). See "Removing the Memory Module(s)" on page 21.
5. Follow the instructions from step 1 to step 3 in "Removing the Hard Drive(s)" on page 23.
6. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
7. Remove the mSATA card. "Removing the mSATA Card" on page 35.
8. Remove the wireless Mini-Card. See "Removing the Wireless Mini-Card" on page 31.
9. Remove the palm rest. See "Removing the Palm Rest" on page 39.
10. Remove the fan. See "Removing the Fan" on page 47.
11. Follow the instructions from step 1 to step 10 in "Removing the System Board" on page 75.

Procedure

1. In sequential order (indicated on the heat sink), loosen the captive screws that secure the heat sink to the system board.
2. Lift the heat sink off the system board.



1	heat sink	2	captive screws (4)

Replacing the Heat Sink

Procedure

NOTE: The original thermal grease can be reused, if the original system board and heat sink are reinstalled together. If either the system board or the heat sink is replaced, use the thermal pad provided in the kit to ensure that thermal conductivity is achieved.

1. Clean the thermal grease from the bottom of the heat sink and reapply it.
2. Align the screw holes on the heat sink with the screw holes on the system board.
3. In sequential order (indicated on the heat sink), tighten the captive screws that secure the heat sink to the system board.

Postrequisites

1. Follow the instructions from step 3 to step 11 in "Replacing the System Board" on page 79.
2. Replace the fan. See "Replacing the Fan" on page 48.
3. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
4. Replace the keyboard. See "Replacing the Keyboard" on page 18.
5. Replace the wireless Mini-Card. See "Replacing the Wireless Mini-Card" on page 33.
6. Replace the mSATA card. See "Replacing the mSATA Card" on page 37.
7. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
8. Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive(s)" on page 26.
9. Replace the memory module(s). See "Replacing the Memory Module(s)" on page 22.
10. Replace the base cover. See "Replacing the Base Cover" on page 20.
11. Replace the battery. See "Replacing the Battery" on page 13.
12. Follow the instructions in "After Working Inside Your Computer" on page 9.

22 Processor

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Processor

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Remove the memory module(s). See "Removing the Memory Module(s)" on page 21.
5. Follow the instructions from step 1 to step 3 in "Removing the Hard Drive(s)" on page 23.
6. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
7. Remove the mSATA card. "Removing the mSATA Card" on page 35.
8. Remove the wireless Mini-Card. See "Removing the Wireless Mini-Card" on page 31.
9. Remove the palm rest. See "Removing the Palm Rest" on page 39.
10. Remove the fan. See "Removing the Fan" on page 47.
11. Follow the instructions from step 1 to step 10 in "Removing the System Board" on page 75.
12. Remove the heat sink. See "Removing the Heat Sink" on page 81.

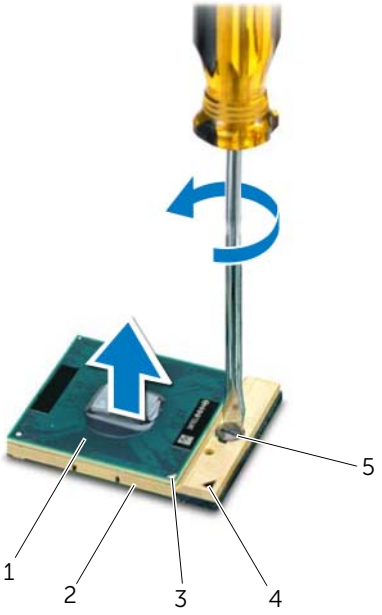
Procedure

1 To loosen the ZIF socket, use a small, flat-blade screwdriver and rotate the ZIF-socket cam screw counterclockwise until it comes to the cam stop.

CAUTION: To ensure maximum cooling for the processor, do not touch the heat transfer areas on the processor thermal cooling assembly. The oils in your skin can reduce the heat transfer capability of the thermal pads.

CAUTION: When removing the processor module, pull the module straight up. Be careful not to bend the pins on the processor module.

2 Lift the processor module from the ZIF socket.



1	processor	2	ZIF socket
3	processor pin-1 corner	4	ZIF-socket pin-1 corner
5	ZIF-socket cam screw		

Replacing the Processor

Procedure

NOTE: If you install a new processor, a new thermal assembly including an affixed thermal pad or a new thermal pad along with documentation to illustrate proper installation is shipped.

1. Align the pin-1 corner of the processor module with the pin-1 corner of the ZIF socket, then insert the processor module.

NOTE: The pin-1 corner of the processor module has a triangle that aligns with the triangle on the pin-1 corner of the ZIF socket.

When the processor module is properly seated, all four corners are aligned at the same height. If one or more corners of the module are higher than the others, the module is not seated properly.

CAUTION: To avoid damage to the processor, hold the screwdriver perpendicular to the processor when turning the cam screw.

2. Tighten the ZIF socket by turning the cam screw clockwise to secure the processor module to the system board.

Postrequisites

1. Replace the heat sink. See "Replacing the Heat Sink" on page 83.
2. Follow the instructions from step 3 to step 11 in "Replacing the System Board" on page 79.
3. Replace the fan. See "Replacing the Fan" on page 48.
4. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
5. Replace the wireless Mini-Card. See "Replacing the Wireless Mini-Card" on page 33.
6. Replace the mSATA card. See "Replacing the mSATA Card" on page 37.
7. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
8. Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive(s)" on page 26.
9. Replace the memory module(s). See "Replacing the Memory Module(s)" on page 22.
10. Replace the base cover. See "Replacing the Base Cover" on page 20.
11. Replace the keyboard. See "Replacing the Keyboard" on page 18.
12. Replace the battery. See "Replacing the Battery" on page 13.
13. Follow the instructions in "After Working Inside Your Computer" on page 9.

23 Power-Adapter Port

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

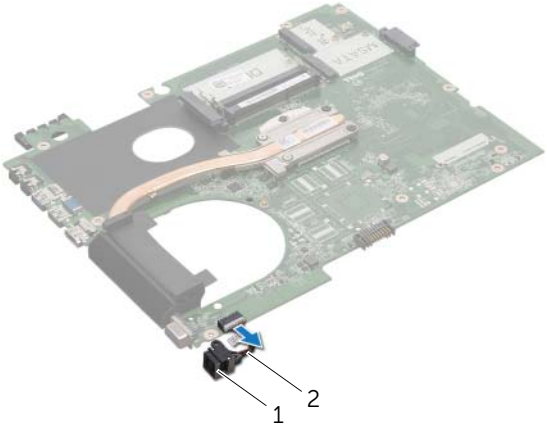
Removing the Power-Adapter Port

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Remove the memory module(s). See "Removing the Memory Module(s)" on page 21.
5. Follow the instructions from step 1 to step 3 in "Removing the Hard Drive(s)" on page 23.
6. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
7. Remove the mSATA card. "Removing the mSATA Card" on page 35.
8. Remove the wireless Mini-Card. See "Removing the Wireless Mini-Card" on page 31.
9. Remove the palm rest. See "Removing the Palm Rest" on page 39.
10. Remove the fan. See "Removing the Fan" on page 47.
11. Follow the instructions from step 1 to step 9 in "Removing the System Board" on page 75.

Procedure

Disconnect the power-adapter port cable from the system-board connector.



1	power-adapter port	2	power-adapter port cable

Replacing the Power-Adapter Port

Procedure

Connect the power-adapter port cable to the system-board connector.

Postrequisites

1. Follow the instructions from step 4 to step 11 in "Replacing the System Board" on page 79.
2. Replace the fan. See "Replacing the Fan" on page 48
3. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
4. Replace the wireless Mini-Card. See "Replacing the Wireless Mini-Card" on page 33.
5. Replace the mSATA card. See "Replacing the mSATA Card" on page 37.
6. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
7. Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive(s)" on page 26.
8. Replace the memory module(s). See "Replacing the Memory Module(s)" on page 22.
9. Replace the base cover. See "Replacing the Base Cover" on page 20.
10. Replace the keyboard. See "Replacing the Keyboard" on page 18.
11. Replace the battery. See "Replacing the Battery" on page 13.
12. Follow the instructions in "After Working Inside Your Computer" on page 9.

24 Speakers

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

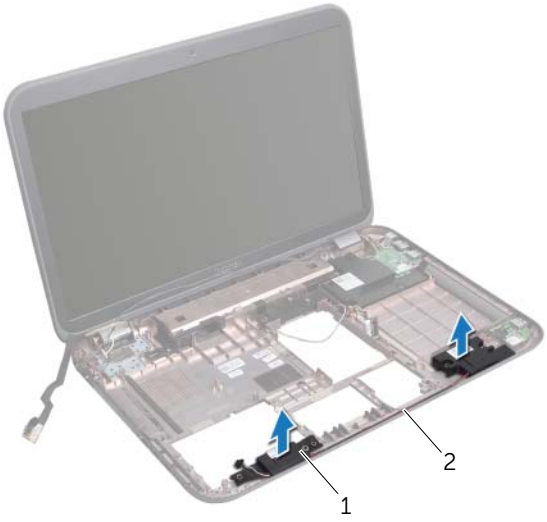
Removing the Speakers

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Remove the memory module(s). See "Removing the Memory Module(s)" on page 21.
5. Follow the instructions from step 1 to step 3 in "Removing the Hard Drive(s)" on page 23.
6. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
7. Remove the mSATA card. "Removing the mSATA Card" on page 35.
8. Remove the wireless Mini-Card. See "Removing the Wireless Mini-Card" on page 31.
9. Remove the palm rest. See "Removing the Palm Rest" on page 39.
10. Remove the fan. See "Removing the Fan" on page 47.
11. Follow the instructions from step 1 to step 8 in "Removing the System Board" on page 75.

Procedure

1. Make a note of the speakers cable routing and remove it from the routing guides on the computer base.
2. Lift the speakers along with its cable away from the computer base.



1	speakers (2)	2	speakers cable routing

Replacing the Speakers

Procedure

1. Route the speakers cable through the routing guides on the computer base.
2. Use the alignment posts on the computer base to place the speakers in position.

Postrequisites

1. Follow the instructions from step 5 to step 11 in "Replacing the System Board" on page 79.
2. Replace the fan. See "Replacing the Fan" on page 48.
3. Replace the palm rest. See "Replacing the Palm Rest" on page 49.
4. Replace the wireless Mini-Card. See "Replacing the Wireless Mini-Card" on page 33.
5. Replace the mSATA card. See "Replacing the mSATA Card" on page 37.
6. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
7. Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive(s)" on page 26.
8. Replace the memory module(s). See "Replacing the Memory Module(s)" on page 22.
9. Replace the base cover. See "Replacing the Base Cover" on page 20.
10. Replace the keyboard. See "Replacing the Keyboard" on page 18.
11. Replace the battery. See "Replacing the Battery" on page 13.
12. Follow the instructions in "After Working Inside Your Computer" on page 9.

25 Subwoofer

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 7. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Removing the Subwoofer

Prerequisites

1. Remove the battery. See "Removing the Battery" on page 13.
2. Remove the keyboard. See "Removing the Keyboard" on page 15.
3. Remove the base cover. See "Removing the Base Cover" on page 19.
4. Remove the memory module(s). See "Removing the Memory Module(s)" on page 21.
5. Follow the instructions from step 1 to step 3 in "Removing the Hard Drive(s)" on page 23.
6. Follow the instructions from step 1 to step 2 in "Removing the Optical Drive" on page 27.
7. Remove the mSATA card. "Removing the mSATA Card" on page 35.
8. Remove the wireless Mini-Card. See "Removing the Wireless Mini-Card" on page 31.
9. Remove the palm rest. See "Removing the Palm Rest" on page 39.
10. Remove the fan. See "Removing the Fan" on page 47.
11. Follow the instructions from step 1 to step 8 in "Removing the System Board" on page 75.

Procedure

1. Make a note of the subwoofer cable routing and remove it from the routing guides on the computer base.
2. Lift the subwoofer along with its cable away from the computer base.

1	subwoofer

Replacing the Subwoofer

Procedure

1. Use the alignment posts on the computer base to place the subwoofer in position.
2. Route the subwoofer cable through the routing guides on the computer base.

Postrequisites

1. Follow the instructions from step 5 to step 11 in "Replacing the System Board" on page 79.
2. Replace the fan. See "Replacing the Fan" on page 48.
3. Replace the palm rest. See "Replacing the Palm Rest" on page 41.
4. Replace the wireless Mini-Card. See "Replacing the Wireless Mini-Card" on page 33.
5. Replace the mSATA card. See "Replacing the mSATA Card" on page 37.
6. Follow the instructions from step 4 to step 5 in "Replacing the Optical Drive" on page 29.
7. Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive(s)" on page 26.
8. Replace the memory module(s). See "Replacing the Memory Module(s)" on page 22.
9. Replace the base cover. See "Replacing the Base Cover" on page 20.
10. Replace the keyboard. See "Replacing the Keyboard" on page 18.
11. Replace the battery. See "Replacing the Battery" on page 13.
12. Follow the instructions in "After Working Inside Your Computer" on page 9.

26 Flashing the BIOS

The BIOS may require flashing when an update is available or when replacing the system board.

To flash the BIOS:

1. Turn on the computer.
2. Go to **support.dell.com/support/downloads**.
3. Locate the BIOS update file for your computer:

   NOTE: The Service Tag for your computer is located on a label at the bottom of your computer. For more information, see the Quick Start Guide that shipped with your computer.

   If you have your computer's Service Tag or Express Service Code:

   a. Enter your computer's Service Tag or Express Service Code in the **Service Tag or Express Service Code** field**.**

   b. Click **Submit** and proceed to step 4.

   If you do not have your computer's Service Tag or Express Service Code:

   a. Select one of the following options:

      - **Automatically detect my Service Tag for me**
      - **Choose from My Products and Services List**
      - **Choose from a list of all Dell products**

   b. Click **Continue** and follow the instructions on the screen.
4. A list of results appears on the screen. Click **BIOS**.
5. Click Download File to download the latest BIOS file.
6. In the **Please select your download method below** window, click **For Single File Download via Browser**, and then click **Download Now**.
7. In the **Save As** window, select an appropriate location to download the file on your computer.
8. If the **Download Complete** window appears, click **Close**.
9. Navigate to the folder where you downloaded the BIOS update file.
   The file icon appears in the folder and is titled the same as the downloaded BIOS update file.
10. Double-click the BIOS update file icon and follow the instructions that appear on the screen.